IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	PETROV, et al.		
Serial No.:	09/819,772	Group Art Unit:	2624
Filing Date:	March 28, 2001	Examiner:	G. Cunningham
For:	TOOLS FOR 3D MESH AND TEXTURE MANIPULATION		

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APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37

Sir:

On October 19, 2007, Appellant submitted a Notice of Appeal from the final rejection of claims 2-10, 55-63 and 114-117 contained in the Final Office Action issued by the U.S. Patent and Trademark Office (the "PTO") on August 3, 2007 in the above-identified patent application.

In accordance with 37 C.F.R. § 41.37, this brief is submitted in support of the appeal of the final rejection of claims 2-10, 55-63 and 114-117. For at least the reasons set forth below, the final rejection of claims 2-10, 55-63 and 114-117 should be reversed.

1. **REAL PARTY IN INTEREST**

The real party in interest in the present appeal is:

Viewpoint Corporation
498 Seventh Avenue, Suite 1810
New York, NY 10018

Viewpoint Corporation is the assignee of the entire right, title, and interest in the present application.

2. RELATED APPEALS AND INTERFERENCES

There are no interferences or other appeals related to the present application.

3. STATUS OF CLAIMS

Claim 1 has been canceled.

Claims 2-10 are currently pending and stand finally rejected under 35 U.S.C. §102(b) as being anticipated by MatLab Primer (hereinafter MatLab).

Claims 11-53 have been withdrawn from consideration and canceled.

Claim 54 has been canceled.

Claims 55-63 are currently pending and stand finally rejected under 35 U.S.C. §102(b) as being anticipated by MatLab.

Claims 64-112 have been withdrawn from consideration and canceled.

Claim 113 has been canceled.

Claims 114-117 are currently pending and stand finally rejected under 35 U.S.C. §102(b) as being anticipated by MatLab.

Appellant appeals the rejection of claims 2-10, 55-63 and 114-117. A copy of all of the claims involved in the appeal is attached hereto in the Appendix.

4. STATUS OF AMENDMENTS

There are currently no amendments pending.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER

Generally, the pending claims are directed to methods, systems and articles of manufacture for managing three dimensional mesh models.

Independent claim 5 recites a method for restoring a previous version of a three dimensional mesh model by retrieving a stored copy of an earlier state of the mesh model, retrieving an ordered list of operations that if performed on the earlier state of the mesh model

would result in the current state of the mesh model, and performing at least some of those operations on the earlier state of the mesh model. See e.g., page 8, line 3 to page 9, line 23 and Figure 1 of Appellants' specification.

Independent claim 58 recites an article of manufacture storing instructions (e.g., software) for restoring a previous version of a three dimensional mesh model by retrieving a stored copy of an earlier state of the mesh model, retrieving an ordered list of operations that if performed on the earlier state of the mesh model would result in the current state of the mesh model, and performing at least some of those operations on the earlier state of the mesh model. See e.g., page 8, line 3 to page 9, line 23 and Figure 1 of Appellants' specification.

Independent claim 115 recites a method for managing a three dimensional mesh model by storing a copy of a first state of the mesh model, performing operations on the mesh model that place the mesh model in a second state, storing a record of each of the operations in an ordered list, and reapplying at least some of the operations stored in the ordered list to the stored first state of the mesh model to place the mesh model in a third state. See e.g., page 8, line 3 to page 9, line 23 and Figure 1 of Appellants' specification.

Independent claim 116 recites an article of manufacture storing instructions (e.g., software) for managing a three dimensional mesh model by storing a copy of a first state of the mesh model, performing operations on the mesh model that place the mesh model in a second state, storing a record of each of the operations in an ordered list, and reapplying at least some of the operations stored in the ordered list to the stored first state of the mesh model to place the mesh model in a third state. See e.g., page 8, line 3 to page 9, line 23 and Figure 1 of Appellants' specification.

Independent claim 117 recites a system for managing a three dimensional mesh model including computer modules for storing a copy of a first state of the mesh model, performing operations on the mesh model that place the mesh model in a second state, storing a record of each of the operations in an ordered list, and reapplying at least some of the operations stored in the ordered list to the stored first state of the mesh model to place the mesh model in a third state. See e.g., page 8, line 3 to page 9, line 23 and Figure 1 of Appellants' specification.

6.   **GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 2-10, 55-63 and 114-117 stand rejected under 35 U.S.C. § 102(b) as being anticipated MatLab.

7.   **ARGUMENTS**

In order for a claim to be anticipated under 35 U.S.C. § 102, a single prior art reference must disclose each and every element of the claim in exactly the same way. *See, e.g., Lindeman Machinenfabrik v. Am. Hoist and Derrick*, 730 F.2d 1452, 1458 (Fed. Cir. 1984); MPEP § 2131. As explained below, Appellant respectfully submits that this criterion for establishing anticipation is not met here.

A. Claims 5-10 and 58-63 are not anticipated by MatLab

Claim 5 of the present application recites:

> 5. A method for restoring a previous version of a three dimensional mesh model on a computer system comprising:
>
> retrieving a stored copy of an earlier state of the three dimensional mesh model on the computer system;
>
> retrieving an ordered list of operations on the computer system; and
>
> performing at least some of the operations in the ordered list of operations on the retrieved copy of the three dimensional mesh model;
>
> wherein the ordered list of operations contains the operations which if performed in order on the earlier state of the three dimensional mesh model would result in a current state of the three dimensional mesh model.

Claim 58 of the present application recites:

> 58. An article of manufacture comprising a computer-readable medium having stored thereon instructions adapted to be executed by a processor, the instructions which, when executed, define a series of steps to be used for restoring a previous version of a three dimensional mesh model, said steps comprising:
>
> retrieving a stored copy of an earlier state of the three dimensional mesh model;

retrieving an ordered list of operations; and

performing at least some of the operations in the ordered list of operations on the retrieved copy of the three dimensional mesh model;

wherein the ordered list of operations contains the operations which if performed in order on the earlier state of the three dimensional mesh model would result in a current state of the three dimensional mesh model.

Claims 5 and 58 recite retrieving a stored copy of an earlier state of a mesh model and an ordered list of operations and performing at least some of those operations on the retrieved mesh model. The ordered list of operations contains the operations necessary to transform the earlier state of the mesh model into the current state. Thus, one possible application of example embodiments of the present invention is an undo function where each retrieved operation may be applied to the retrieved copy of the mesh model until the desired "level" of undo is reached. *See also* page 8 of the specification.

The Matlab reference cited by the Examiner describes a programmable environment that allows a user to save the state of the variables in a Matlab session before exiting, to restore the state of these variables later, to create "M-files" that contain sequences of Matlab commands that are performed when the M-file is called, and to produce mesh surface plots and other graphical representations. However, the Matlab reference does not describe the invention of claims 5 and 58 because it does not describe using the capabilities of Matlab to perform the steps recited in those claims. Among other things, the Matlab reference does not describe an "ordered list of operations [that] contains the operations which if performed in order on the earlier state of the three dimensional mesh model would result in a current state of the three dimensional mesh model." While it may be possible for a user to create an M-file in Matlab that contained operations which if performed in order on a earlier state of a three dimensional mesh model would result in a current state of the three dimensional mesh model, Applicants respectfully state that there is no description in the Matlab reference of any user having done so.

Applicants respectfully assert that the Examiner has used Applicant's claims as a guide to picking and choosing the functionality of Matlab that might be used to carry out the steps in the claims. But the existence of such functionality is not sufficient to render the claim as anticipated, the steps must have actually been carried out as recited (i.e., as in claim 5) or

instructions which define the steps to be carried out must have been stored on a computer readable medium (i.e., as in claim 58). Neither of those conditions are shown to have been met by the Matlab reference. The mere fact that a user could hypothetically have carried out the steps of the invention using the programming functionality of the Matlab system does not anticipate the claims. *See, e.g., Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1378 (Fed. Cir. 2005); *Cf.* MPEP § 2112.02 ("Prior art device anticipates a claimed process *if the device carries out the process during normal operation*" (emphasis added)).

Claims 6-10 and 59-63 depend from independent claims 5 and 58 respectively, and thus are patentable over MatLab for at least the reasons that claims 5 and 58 are patentable.

B. Claims 2-4, 55-57 and 114-117 are not anticipated by MatLab

Claim 115 of the present application recites:

115. A method for managing a three dimensional mesh model on a computer system, comprising:

storing a copy of a first state of the three dimensional mesh model on the computer system;

performing operations on the three dimensional mesh model, wherein the three dimensional mesh model is in a second state after performing the operations;

storing a record of each of the operations in an ordered list on the computer system; and

reapplying at least some of the operations stored in the ordered list to the stored first state of the three dimensional mesh model, wherein the three dimensional mesh model is in a third state after reapplying the at least some of the operations.

Claim 116 of the present application recites:

116. An article of manufacture comprising a computer-readable medium having stored thereon instructions adapted to be executed by a processor, the instructions which, when executed, define a series of steps to be used for managing a three dimensional mesh model, said steps comprising:

storing a copy of a first state of the three dimensional mesh model;

performing operations on the three dimensional mesh model, wherein the three dimensional mesh model is in a second state after performing the operations;

storing a record of each of the operations in an ordered list; and

reapplying at least some of the operations stored in the ordered list to the stored first state of the three dimensional mesh model, wherein the three dimensional mesh model is in a third state after reapplying the at least some of the operations.

Claim 117 of the present application recites:

117. A system for managing a three dimensional mesh model, the system comprising:

a computer module for storing a copy of a first state of the three dimensional mesh model;

a computer module for performing operations on the three dimensional mesh model, wherein the three dimensional mesh model is in a second state after performing the operations;

a computer module for storing a record of each of the operations in an ordered list; and

a computer module for reapplying at least some of the operations stored in the ordered list to the stored first state of the three dimensional mesh model, wherein the three dimensional mesh model is in a third state after reapplying the at least some of the operations.

Similar to the discussion above in regard to claims 5 and 58, while the Matlab reference describes functionality for storing lists of operations and graphically rendering mesh surface plots, it does not describe the inventions of claims 115, 116 or 117 actually being performed or assembled.

For example, in regard to claim 115, while the Matlab reference describes the Matlab system as being capable of storing list of operations (M-files) and as being capable of rendering mesh surface plots, the Matlab reference does not describe storing a copy of a first state of a three dimensional mesh model, performing operations on the three dimensional mesh model to place it in a second state, storing a record of each of the operations in an ordered list, and reapplying at least some of the operations stored in the ordered list to the stored first state of the three dimensional mesh model to place it in a third state as recited by claim 115. The Matlab reference similarly does not describe storing instructions on a computer readable medium to do so (i.e., as in claim 116), or assembling computer modules to do so (i.e., as in claim 117).

Applicants respectfully assert that the Examiner has used Applicant's claims as a guide to

picking and choosing the functionality of Matlab that might be used to meet the limitations of the claims. The mere fact that a user could hypothetically have carried out or assembled the invention using the programming functionality of the Matlab system does not anticipate the claims. *See, e.g., Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1378 (Fed. Cir. 2005); *Cf.* MPEP § 2112.02 ("Prior art device anticipates a claimed process *if the device carries out the process during normal operation*" (emphasis added)).

Claims 2-4, 55-57 and 114 depend from independent claims 115, 116 and 117 respectively, and thus are patentable over MatLab for at least the reasons that claims 115, 116 and 117 are patentable.

8. CLAIMS APPENDIX

An appendix containing the claims involved in the appeal is attached hereto.

9. EVIDENCE APPENDIX

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130, 1.131 or 1.132. No other evidence has been entered by the Examiner or relied upon by Appellant in the appeal. An "Evidence Appendix" is nevertheless attached hereto.

10. RELATED PROCEEDINGS APPENDIX

As indicated above in Section 2 of this Appeal Brief, there are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellants or the assignee, Viewpoint Corporation "which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal." As such, there no "decisions rendered by a court or the Board in any proceeding identified pursuant to [37 C.F.R. § 41.37(c)(1)(ii)]" to be submitted. A "Related Proceedings Appendix" is nevertheless attached hereto.

11. CONCLUSION

For at least the reasons indicated above, Appellant respectfully submits that the art of record does not teach or suggest Appellant's invention as recited in the claims of the above-

identified application. Accordingly, it is respectfully submitted that the invention recited in the claims of the present application is new, non-obvious and useful. Reversal of the Examiner's rejections of the claims is therefore respectfully requested.

The Commissioner is authorized to charge Kenyon & Kenyon LLP Deposit Account No. 11-0600 for any applicable fee.

Respectfully submitted,

Dated: December 19, 2007

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CLAIMS APPENDIX

2. The method of claim 115 wherein the step of storing a record of each of the operations includes:

storing all of the parameters necessary to repeat the operations.

3. The method of claim 2 wherein the ordered list contains a record for each operation that has been previously performed on the three dimensional mesh model in the order in which it was performed.

4. The method of claim 115 wherein the step of reapplying at least some of the operations stored in the ordered list to the stored first state of the three dimensional mesh model includes:

retrieving the stored copy of the first state of the three dimensional mesh model;

retrieving the ordered list of operations; and

performing at least one operation in the ordered list of operations on the retrieved copy of the first state of the three dimensional mesh model.

5. A method for restoring a previous version of a three dimensional mesh model on a computer system comprising:

retrieving a stored copy of an earlier state of the three dimensional mesh model on the computer system;

retrieving an ordered list of operations on the computer system; and

performing at least some of the operations in the ordered list of operations on the retrieved copy of the three dimensional mesh model;

wherein the ordered list of operations contains the operations which if performed in order on the earlier state of the three dimensional mesh model would result in a current state of the three dimensional mesh model.

6. The method of claim 5 wherein each operation is performed in the same order in which it was originally placed in the ordered list.

7. The method of claim 6 further comprising the step of:

rendering the retrieved copy of the three dimensional mesh model to a display device after each operation is performed.

8. The method of claim 6 wherein the ordered list of operations is filtered to exclude at least one record.

9. The method of claim 8 wherein the at least one excluded record is at an end of the list.

10. The method of claim 8 wherein the at least one excluded record is at least one record removed from an end of the list.

55. The article of manufacture of claim 116 wherein the step of storing a record of each of the operations includes:

storing all of the parameters necessary to repeat the operations.

56. The article of manufacture of claim 55 wherein the ordered list contains a record for each operation that has been previously performed on the three dimensional mesh model in the order in which it was performed.

57. The article of manufacture of claim 116 wherein the step of reconstructing the three dimensional model includes:

retrieving the stored copy of the first state the three dimensional mesh model;

retrieving the ordered list of operations; and

performing at least one operation in the ordered list of operations on the retrieved copy of the first state of the three dimensional mesh model.

58. An article of manufacture comprising a computer-readable medium having stored

thereon instructions adapted to be executed by a processor, the instructions which, when executed, define a series of steps to be used for restoring a previous version of a three dimensional mesh model, said steps comprising:

retrieving a stored copy of an earlier state of the three dimensional mesh model;

retrieving an ordered list of operations; and

performing at least some of the operations in the ordered list of operations on the retrieved copy of the three dimensional mesh model;

wherein the ordered list of operations contains the operations which if performed in order on the earlier state of the three dimensional mesh model would result in a current state of the three dimensional mesh model.

59. The article of manufacture of claim 58 wherein each operation is performed in the same order in which it was originally placed in the ordered list.

60. The article of manufacture of claim 59 further comprising the step of:

rendering the retrieved copy of the three dimensional mesh model to a display device after each operation is performed.

61. The article of manufacture of claim 59 wherein the ordered list of operations is filtered to exclude at least one record.

62. The article of manufacture of claim 61 wherein the at least one excluded record is at an end of the list.

63. The article of manufacture of claim 61 wherein the at least one excluded record is at least one record removed from an end of the list.

114. The system of claim 117 wherein the computer module for storing a record of each of the operations includes:

a computer module for storing all of the parameters necessary to repeat the operation.

115. A method for managing a three dimensional mesh model on a computer system, comprising:

storing a copy of a first state of the three dimensional mesh model on the computer system;

performing operations on the three dimensional mesh model, wherein the three dimensional mesh model is in a second state after performing the operations;

storing a record of each of the operations in an ordered list on the computer system; and

reapplying at least some of the operations stored in the ordered list to the stored first state of the three dimensional mesh model, wherein the three dimensional mesh model is in a third state after reapplying the at least some of the operations.

116. An article of manufacture comprising a computer-readable medium having stored thereon instructions adapted to be executed by a processor, the instructions which, when executed, define a series of steps to be used for managing a three dimensional mesh model, said steps comprising:

storing a copy of a first state of the three dimensional mesh model;

performing operations on the three dimensional mesh model, wherein the three dimensional mesh model is in a second state after performing the operations;

storing a record of each of the operations in an ordered list; and

reapplying at least some of the operations stored in the ordered list to the stored first state of the three dimensional mesh model, wherein the three dimensional mesh model is in a third state after reapplying the at least some of the operations.

117. A system for managing a three dimensional mesh model, the system comprising:

a computer module for storing a copy of a first state of the three dimensional mesh model;

a computer module for performing operations on the three dimensional mesh model, wherein the three dimensional mesh model is in a second state after performing the operations;

a computer module for storing a record of each of the operations in an ordered list; and

a computer module for reapplying at least some of the operations stored in the ordered list to the stored first state of the three dimensional mesh model, wherein the three dimensional mesh model is in a third state after reapplying the at least some of the operations.

EVIDENCE APPENDIX

No evidence has been submitted pursuant to 37 C.F.R. §§1.130, 1.131, or 1.132. No other evidence has been entered by the Examiner or relied upon by Appellant in the appeal.

RELATED PROCEEDINGS APPENDIX

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